Name of Organization: Hammond Department of Environmental Management

Type of Organization: Municipality

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Project Title: George Lake Watershed Restoration Project 1

Project Category: Emerging Issues

Rank by Organization (if applicable): 0

Total Funding Requested ($): 220,000 **Project Duration:** 2 Years

Abstract:

The southern portion of George Lake was filled with steel mill slag deposits (100 acres) beginning in the late 1930's and ending in the early 1970's. The slag exhibits the characteristics of elevated pH and contains significant metals left as waste from the production of steel. Over the years, the slag has altered the condition of the surface water in the lake by raising the pH and increasing the metals content of the waters George Lake. Lake studies, and testing of the slag deposits, have shown that the cause of the lake pollution is direct contact of slag with the lake water, and percolation of rain water through the slag and into the lake waters. The slag was tested and shown to have a hydraulic conductivity of 1.5 x 10-2 cm/sec (approximately 22 inches / hour). This promotes rapid percolation of rainwater through the slag thus elevating the pH & metals to the lake. The challenge is to eliminate the contribution of the constituents associated with the slag presence in the southern shores of the lake. Remedial measures (Vegetation CAP) have been targeted to reduce percolation through the slag into the lake waters. By reducing the rainwater entering the lake through the slag, and allowing natural dilution and diffusion in the lake, the pH and metals content will eventually return to normal conditions. The City of Hammond and the Hammond Redevelopment Commission have already begun the transformation of this environmentally distressed watershed, into a multi-functional natural and public recreational area consisting of: a 9 hole youth golf course and youth and adult driving range (completed), an adult golf course, the restoration and protection of two sensitive wooded uplands associated with migratory birds, and the enhancing and restoration of the two basins of George Lake. One basin will be naturally restored while the other basin will be deepened to enhance aquatic life and promote public fishing.

Geographic Areas Affected by the Project

States:

- ☐ Illinois
- ☒ Indiana
- ☐ Michigan
- ☐ Minnesota
- ☐ New York
- ☐ Pennsylvania
- ☐ Wisconsin
- ☐ Ohio

Lakes:

- ☐ Superior
- ☐ Huron
- ☒ Michigan
- ☐ Erie
- ☐ Ontario
- ☐ All Lakes

Geographic Initiatives:

☐ Greater Chicago ☐ NE Ohio ☒ NW Indiana ☐ SE Michigan ☐ Lake St. Clair

Primary Affected Area of Concern: Grand Calumet River/IHC, IN

Other Affected Areas of Concern:

For Habitat Projects Only:

Primary Affected Biodiversity Investment Area:

Other Affected Biodiversity Investment Areas:

Problem Statement:

Eliminate, or significantly reduce, the contribution of the constituents associated with the 100 acre slag dump on the southern shores of George Lake located in the Grand Calumet River/Indiana Harbor Canal AOC . Remedial measures will be targeted to reduce percolation through the slag and then into the lake waters by creating a CAP. By reducing the rainwater entering the lake through the slag, and allowing natural dilution and diffusion in the lake, the pH and metals content will eventually return to normal conditions. The vegetative CAP will be also used for recreational purposes, thus enhancing the viability of the lake, the associated aquatic life, wildlife, and migratory bird habitat in and surrounding the lake.

This publicly acceptable and environmentally beneficial project will demonstrate a way to reuse and recycle municipal and industrial waste products (bio-solids and lime) on a brownfield site that is being transformed into a multi-functional natural and recreational area.

Proposed Work Outcome:

The most feasible approach to cleaning and protecting the lake is placement of a vegetative CAP over the slag to significantly reduce percolation into the lake. The CAP will incorporate a mix of sand which will be removed from the 2-3 foot deep lake bottom (this will enhance the viability of the aquatic species and wildlife associated with the lake), with bio-solids from the Hammond Sanitary District treatment lagoons, and clean lime from an adjacent industrial facility. Tests show that a CAP using the above mixture can alter the hydraulic conductivity to the 10-8 range. These materials (sand, bio-solids and lime) will not only create, but will support, a vegetative CAP over approximately 62 acres of slag remaining at the site. The biosolids have been extensively tested and have been found to be free of PCBs, mercury, and organics that would contribute to volatilization. In addition, a QAWP is being prepared for the various streams of materials utilized for the CAP.

This project will put to productive use the 62 remaining acres of slag which contain undesirable substances that are adversely impacting the lake and surrounding properties. The result of this effort will be elimination of a significant source of environmental contamination and allow for the creation of a recreational center involving affordable golf for youth and adults, fishing for all ages, plus the creation, protection, and enhancement of scarce habitat in Northwest Indiana.

Grant Funding will be used for: Assessment (Drilling, Lab Analysis, Field Investigation & Sampling) $90,000; CAP Design-$22,500; QC Development & Field QC Verification-$107,500.

Project Milestones:	Dates:
Project Start	01/2000
CAP Design	03/2000
CAP Construction Begins	05/2000
Confirmatory Testing Begins	10/2000
Vegetative Growth Begins	09/2000
Vegetation Established	07/2001
Confirmatory Testing Completed	10/2001
Project End	12/2001

☒ Project Addresses Environmental Justice

If So, Description of How:

Few areas in the United States have seen the concentration of pollution found in Northwest Indiana. George Lake, and its watershed, is in the Grand Calumet River/Indiana Harbor Canal Area of Concern. Northwest Indiana has been selected for a Geographic Initiative by the United States Environmental Protection Agency - Region V. Using data collected under the federal Community Right to Know Statute (EPCRA), Lake County, Indiana, consistently ranks as one of the most polluted counties in the nation. As demonstrated by the following statistics, the project site is located in an ethnically diverse community:
Population: 84,236 White 85%, Black 10%, Asian/Pacific Islander 4%, American Indian/Eskimo 1%.
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This project will greatly improve the quality of life for the minority and lower income population of the area. Once completed, the George Lake Watershed Restoration Project will provide low or no cost recreational activities and add natural resources for the entire region to utilize and enjoy. The means of access will be through the Hammond Transit System which provides public transportation in Hammond and it is directly connected to the City of Gary Public Transit System, the City of East Chicago Public Transit System, and the Northern Indiana Commuter Transportation District (commuter railroad) in Indiana. The Hammond Transit System is also directly connected to the PACE Suburban Transit System (which services south Cook County, Illinois) and the City of Chicago Transit Authority. A modification to the Hammond Transit route in the area of the Watershed Restoration Project has already been evaluated and a route change will occur in the Spring of 2000 when the first phase of the project, the Affordable Youth Golf Course and Driving Range, is scheduled to open.

☒ Project Addresses Education/Outreach

If So, Description of How:

Community input has played a significant role in the development of this project. Public support and interest in this project has been high and public meetings concerning this project have been well attended. To address the heightened interest in this project, the City of Hammond has formed a Citizens Advisory Committee. This committee includes citizens, representatives of environmental organizations, elected officials, and professionals who provide technical assistance to the committee members. The role of this committee is to disseminate information about the project, solicit input from the community, and assist in the design of the overall remediation and restoration work. A "Hot Line" is being established to receive questions from citizens that cannot attend meetings, but are in need of professional environmental answers.

The Hammond School City is embarking on a program that offers students citywide the opportunity to take advantage of the "Affordable" Youth Golf Course. This educational effort is expected to become a model for the region and adopted by other educational institutions. In addition to using the "Affordable" Youth Golf Course, students can visit the Hammond Environmental Education Center, which is located directly adjacent to the golf course. The Environmental Education Center provides real world exposure to the environmental areas of air and water pollution, solid and hazardous waste, and recycling. The naturally restored and enhanced areas will be a living example of how the industrial environment of Northwest Indiana can be fully reclaimed. A comprehensive public transit system makes this sharing of precious

opportunities and resources with the entire regional population a reality.

Project Budget:

	Federal Share Requested ($)	Applicant's Share ($)
Personnel:	0	0
Fringe:	0	0
Travel:	0	0
Equipment:	0	0
Supplies:	0	0
Contracts:	220,000	3,500,000
Construction:	0	0
Other:	0	0
Total Direct Costs:	220,000	3,500,000
Indirect Costs:	0	0
Total:	220,000	3,500,000
Projected Income:	0	0

Funding by Other Organizations (Names, Amounts, Description of Commitments):

The following funding mechanisms have been identified:

Local Funds. These include tax dollars generated through a Tax Increment Financing (TIF) district created by the City of Hammond to fund this project. The City is also pursing a State Sales Tax Increment Financing (STIF) District. Local funds may also come from local Riverboat Gaming Revenue. ($3,500,000.00)

Potentially Responsible Parties. If potentially responsible parties can be identified, efforts will be initiated to have them contribute to the site investigation, assessment, and remediation costs.

State Funds. These include funds that were penalties received by the Indiana Department of Environmental Management and deposited into their Environmental Management Special Fund. The amount involved ranges from $250,000 to $1,000,000.

Supplemental Environmental Project Funds. The City of Hammond has already approached USEPA and IDEM for the use of environmental penalties paid by local polluters to be used to support this project.

Private Funds. Private grants, including the NIPSCO Environmental Challenge Fund, have already paid for environmental restoration and clean-up projects within the project area. Private funds have been used by adjacent property owners (BP AMOCO) to conduct Phase I and Phase II environmental assessments on adjacent properties that may be donated to the project or be long-term leased to the project. The City is currently pursuing additional funds from other private sources.

Federal Funds. USEPA Brownfield Demonstration Pilot ($200,000.00), not included as matching funds.

Description of Collaboration/Community Based Support:

Cooperative Partners: The City of Hammond, Hammond Redevelopment Commission, Hammond Department of Environmental Management, Hammond Sanitary District, Hammond Park Department, School City of Hammond, United States Environmental Protection Agency Region V (Brownfield Program), State of Indiana, Indiana Department of Environmental Management (VRP Program), Lake County (Indiana), Federal Home Loan Bank and local financial institutions, Hammond Environmental Education Center, George Lake Watershed Project Citizens Advisory Committee, private citizens, Bascor Environmental, Inc., J.F. New & Associates, Howard Designs, Reith-Riley Construction, American Fabricators, BP Amoco, and Area Career Center Vocational Students.

Formation of a Project Team. The City of Hammond has assembled a project team which includes environmental and restoration professionals, design and planning experts, government officials, financial and legal experts, private sector partners and environmental organizations. The project team meets weekly.

Obtain Public Input. The City of Hammond has formed a Citizens Advisory Committee for this project. The committee conducts public meetings in the community to receive public input on its plans and goals and to address public concerns and issues. Public participation is considered an essential issue in developing a community oriented recreational, restoration and enhancement project. The Citizens Advisory Committee meets monthly and in response to specific community issues.